

## **REMARKS**

The present response is intended to be fully responsive to the rejection raised in the Office Action, and is believed to place the application in condition for allowance. Further, the Applicants do not acquiesce to any portion of the Office Action not particularly addressed. Favorable reconsideration and allowance of the application is respectfully requested.

In the Office Action, the Office noted that claims 1-35 are pending, and that claims 1-4, 8, 9, 13, 14, 18-25 and 35 are rejected. The Office objected to claims 5-7, 10-12, 15-17, 24 and 26-34.

In view of the above amendments and the following discussion, the Applicants submit that none of the claims now pending in the application are anticipated under the provisions of 35 U.S.C. §102 or obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of these claims are now in condition for allowance.

### **I. OBJECTIONS**

The Office objected to claims 5-7, 10-12, 15-17, 24, 26-34 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to clearly teach or suggest combining the correlation history complex cross-products to compute the Doppler offset. The prior art of record fails to clearly teach or suggest thresholding the correlation history complex dot-products to identify phase transitions within the correlation history. The Applicants thank the Office for indicating allowable subject matter, but nonetheless submit, for the reasons set forth below, independent claims 1 and 12 are allowable over the prior art of record. Thus, the Applicants submit that the dependent claims 6-9, 17 and 18 are allowable, and in turn, request that the objection to such claims be withdrawn.

## **II. REJECTIONS**

Claims 1 and 22 were rejected under 35 U.S.C. § 103(a) as obvious from the combination of U.S. Patent No. 5,692,008 granted to Van Nee ("*Van Nee*") in view of U.S. Patent No. 4,894,842 granted to Broekhoven et al. ("*Broekhoven*").

Claim 1 recites,, among other limitations "estimating at least one satellite signal parameter from the plurality of correlation results using a co-processor integrated within the satellite positioning system receiver; and providing the at least one satellite signal parameter to the processor". Claim 22 as amended recites, among other limitations, a co-processor, integrated within the satellite positioning system receiver, for estimating at least one satellite signal parameter from the plurality of correlation results; and wherein the processor receives the at least one satellite parameter."

Examiner has indicated that Van Nee teaches

"estimating at least one satellite signal parameter from the plurality of correlation results using a co-processor integrated within the satellite positioning system receiver (column 3 lines 51-62 and column 4 lines 31-40, wherein, the received signal time delay  $T_o$ , i.e., pulse width resulting from the time difference between received and reference pulses, is interpreted as the signal parameter. Also, column 13 lines 13-15, lines 56-61 and 50 in Figure 9, wherein, it is clearly interpreted that the DSP 50 in Figure 9 is integrated within the satellite positioning system receiver 30) and

providing the at least one satellite signal parameter to a processor ( $51_1$  to  $51_N$  in Figure 9)."

Office Action at 2-3.

It appears from the foregoing that Examiner reads the claimed "co-processor" on the "DSP 50 in Figure 9". At the same time, however, Examiner reads "providing the at least one satellite signal parameter to a processor" on " $51_1$  to  $51_N$  in Figure 9". " $51_1$  to  $51_N$  in Figure 9" merely inputs (Col. 14, Line 61, "by the digital signal processor 50 at its inputs  $51_k$ ,"). It is respectfully submitted that if "co-processor" reads on "the digital signal processor 50", the claim "processor" does not read on "the digital signal processor 50". Accordingly, Van Nee, " $51_1$  to  $51_N$  in Figure 9" does not teach "providing the at least one

satellite signal parameter to the processor".

For this reason Assignee respectfully requests that Examiner withdraw the rejection to claims 1 and 22, as well as the rejections to claims 2-21, and 23-35.

Additionally, Examiner has indicated that "Van Nee does not specifically teach generating correlation results in response to a command from a processor. However, Broekhoven et al. disclose a processor providing instructions to a correlator (column 4 lines, wherein, the 'microprogram controller' is interpreted as the processor). It is essential that a correlator receive instructions from a processor. Without the necessary instructions, the correlator will not commence generating correlation results. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the method of Van Nee include a processor for providing commands to a plurality of correlators, as Broekhoven et al. teach, in order to be able to generate correlation results." Office Action at 3.

Examiner has indicated that Van Nee teaches "a correlator for generating a plurality of correlation results between a satellite signal and a reference signal (47<sub>1</sub> to 47<sub>N</sub> in Figure 9 and column 14 lines 48-59)". Office Action at 5. Van Nee, column 14, lines 48-59 recites:

At its output 43<sub>k</sub>, each multiplier 40<sub>k</sub> provides a multiplied signal 7 which can be expressed as  $r(t) \cdot \exp(j\omega t) \cdot p(t - \tau_k)$ .

Therefore, each integrator means 45<sub>k</sub> provides at its output 47<sub>k</sub> a signal which can be expressed as

$$\frac{1}{T} \int_0^T r(t) \cdot \exp(j\omega t) \cdot p(t - \tau_k)$$

and which constitutes a sample at  $\tau = \tau_k$  of the in-phase/quadrature downconverted correlation function  $R_x(\tau)$ .

As Examiner has indicated, "Van Nee does not specifically teach generating correlation results in response to a command from a processor." Therefore, in Van Nee, "47<sub>1</sub> to 47<sub>N</sub>

in Figure 9 and column 14 lines 48-59" are not "in response to a command from a processor". Therefore, Assignee respectfully disagrees with Examiner's basis for combining Van Nee and Broekhoven - that "[I]t is essential that a correlator receive instructions from a processor. Without the necessary instructions, the correlator will not commence generating correlation results". Assignee requests that Examiner provide a basis to support the foregoing assertion.

Accordingly, Assignee respectfully submits that no motivation has been established for combining Van Nee and Broekhoven as suggested by Examiner. For this reason alone, Assignee respectfully traverses the rejections to claims 1 and 22, and dependent claims 2-21, and 23-35.

### **CONCLUSION**

In view of the foregoing, the Applicants submit that none of the claims presently in the application are anticipated under the provisions of 35 U.S.C. § 103 or obvious under the provisions of 35 U.S.C. §103. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

Respectfully Submitted



Mirut Dalal  
Attorney for Assignee  
Reg. No. 44,052

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McANDREWS, HELD & MALLOY, LTD.  
500 West Madison – Suite 3400  
Chicago, IL 60661

Phone (312) 775-8000  
FAX (312) 775-8100